

11<sup>th</sup> International Congress on Engineering and Food (ICEF11)

# Challenges facing development within the agri-food sector of Sub-Saharan Africa

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## Abstract

This project was undertaken to identify the challenges facing development within the agri-food sector of Sub-Saharan Africa, specifically in Malawi. On-site interviews were conducted to identify challenges faced by commodity associations and co-operatives, as well as small-scale food and beverage processors during a three-week assignment in Malawi. Actual processing facilities were examined, as were the equipment used and procedures followed. Results of the project were communicated to leaders from international aid organizations, government departments, industry, and academia during a two-day workshop. Additional information was provided through break-out sessions and group discussions within the workshop framework. Of more than forty individual challenges identified, the most serious involved financial constraints. In nations heavily reliant on the use of chemical fertilizers, financial assistance for such basic agricultural inputs was considered to be critical. The lack of suitable equipment coupled with insufficient supplies of high quality raw materials was a major concern. Inadequate education and training, plus poorly developed local technologies also contributed to the abundance of barriers. Food processing activities were often found to be labour-intensive and time-consuming with resultant low yields and poor economic returns. Identification of these challenges and assistance in overcoming them is essential for future capacity building, value addition, and creation of successful, sustainable businesses.

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Selection and/or peer-review under responsibility of 11th International Congress on Engineering and Food (ICEF 11) Executive Committee.

*Keywords:* Sub-Saharan Africa; agri-food challenges; barriers.

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## 1. Introduction

The majority of the 43 countries composing the Sub-Saharan Africa region are predominantly agrarian. For many, agriculture represents 80% of their national economy and supports a proportional percentage of their population. Small-hold farmers, as well as small-scale entrepreneurial business ventures, are continuously faced with challenges to their growth and economic viability.

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Among the United Nations Millennium Development Goals are the reduction of poverty and hunger, as well as gender equality. Understanding the challenges faced by those living in Sub-Saharan Africa is an important component of raising the standard of living for many families who rely solely on agriculture for their livelihood. It also addresses gender issues since the majority of those involved in agriculture are women.

This project was undertaken to identify the challenges facing development within the agri-food sector of Sub-Saharan Africa, specifically in Malawi. Results of the project were then communicated to leaders from international aid organizations, government departments, industry, and academia during a two-day workshop in Malawi.

## 2. Materials & Methods

On-site interviews were conducted with representatives from member associations of the Farmers' Union of Malawi as well as with leaders of cooperatives and small-scale processing operations. Participating organizations included: The Association of Smallholder Seed Multiplication Action Groups; Malawi Organic Growers Association; Zipatso Association of Malawi (Mwanza Natural Fruit Products); Bvumbwe Dairy Farmers Cooperative Society; Ngolowindo Cooperative Society; Mzuzu Coffee Planters Cooperative Union; and the University of Malawi's Bunda College.

The objective was to identify challenges faced by commodity associations, co-operatives, and small-scale food and beverage processors in Malawi. Actual processing facilities were examined, as were the equipment and facilities used and procedures followed.

Additional information was gathered from workshop attendees through discussion periods and "break-out" sessions. All information was presented in a detailed report to the World University Service of Canada who sponsored the project.

## 3. Results & Discussion

More than forty individual challenges were identified. These can be arranged into twelve basic impact groups according to their root-causes, or major contributing factors, as outlined in Figure 1.

Most serious among the identified challenges were the financial constraints faced by every organization consulted. In a nation heavily reliant on the use of chemical fertilizers, financial assistance for such basic agricultural inputs was considered to be absolutely critical. Fertilizer subsidy programs were felt to be the most significant factor for increased productivity and associated benefits. Among other financial burdens were the high cost of fuel and other energy inputs such as electricity.

Deficiencies in the country's infrastructure are a major problem. Not only was the cost of electrical power high, but its actual supply was unreliable. With demand significantly exceeding the supply, rotating power outages were a routinely scheduled occurrence throughout the country. These, coupled with sporadic unscheduled black-outs of varying durations, make anything more than the most fundamental food processing operations almost impossible to operate.

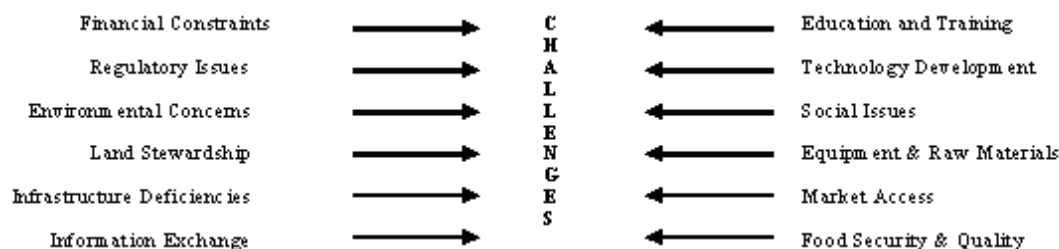


Fig. 1. Factors contributing to challenges faced by the agri-food sector in Sub-Saharan Africa

The lack of a suitable transportation network (i.e., roads and railways) hampers the distribution of raw materials and movement of finished products to market (see Figure 2). This problem is compounded by poor storage or warehousing facilities and access to affordable shipping. As a result, roadside stands may be the only marketing outlet for producers. Where this is not feasible, producers often sell their products to brokers at relatively low prices. The brokers then transport the goods to larger commercial centres where they sell them and pocket the profits at the expense of the producer.



Fig. 2. Bridge decking is often removed as a source of wood for various uses

Many small and medium-sized enterprises (SME's) lack the basic equipment and high quality raw materials to conduct activities on a sustainable or competitive basis. Seed processors may be forced to obtain services from large multi-national companies, thereby substantially reducing their potential profits. Some beverage processors were observed to be using what were essentially domestic kitchen appliances (e.g., five-litre pressure cookers) in labour-intensive, time-consuming, small-scale, batch processes. Other beverage processors were using inappropriate equipment that was not intended for the applications to which it was being put. Due to a lack of equipment and adequate electrical power supplies, one processor performed the heat treatment step in a beverage process by boiling over an open fire (see Figure 3). The resulting low yields of saleable product and poor economic returns from these processes cannot compete with faster, more efficient unit operations found in more developed countries.



Fig. 3. Thermal processing of a beverage over an open fire

An additional concern was the security, quality, and safety of finished products. Sanitation at all stages of the food production chain was a constant struggle for food processors to implement and maintain. Plant disease (Figure 4) and pests (primarily insects) threaten crops. Perishable foods may spoil before they reach market to which access may be restricted due to poor transportation facilities. Improper handling and storage of raw materials and finished product add to the associated risks.

Inadequate education and training, plus poorly developed local technologies were mentioned as barriers to agri-food development. A poorly trained work force without the requisite skills to approach the complexities of food processing, is incapable of advancing this sector to the level required to compete in the global marketplace. A complete generation of workers, many of them skilled, has been lost to AIDS in recent years, and there have been relatively few trained workers available to take their place.



Fig. 4. Disease threatens many crops including coffee plants such as this

Due to the thousands of small land-holdings and a lack of financial resources to facilitate extension activities, there was little or no direction on planting procedures and general agricultural practices. Better communication between agronomists and farmers would enhance productivity and aid in promoting crop diversity plus encourage technology transfer.

Cultural and social practices have had an impact on food processing. There appeared to be a general reluctance by consumers to accept processed foods. Fresh foods are preferred to those which are processed and considered to be inferior. There is a failure to acknowledge the cost associated with processing foods and the benefits derived from it. Such is the case currently with dried foods. Faced by consumer preferences and their unwillingness to purchase products considered to be inferior, processors cannot establish a market for many of their products.

Product and process technology development has suffered due to a lack of resources and appropriate equipment, as mentioned previously. Without diversification through new product development, there is an increased reliance on single product lines which may not be able to face foreign competition.

Diversification with respect to crops being grown was also flagged as an issue. Maize is the single most popular crop. However, there were markets available for such crops as red sorghum to supply the brewing industry. Information exchange is required to assist farmers in determining what crops to grow. This could be partially resolved by improved communications and information exchange between industry and farm groups, facilitated through agronomists or agricultural extension workers. Contract

growing of specific crops could be implemented to supply specialized needs of various processors with resultant benefits to both farmers and processors.

In addition to poor communications, insufficiently defined specifications for raw materials were cited as a barrier in supplying raw materials to industrial processors. Associations and cooperatives were not being provided with adequate information on raw material standards to meet the needs of processors. They were then unable to sell their commodities when told that they failed to meet previously unspecified standards.

Hybrid crops have tended to be preferred over indigenous varieties which provide lower yields per hectare. Although many consumers prefer the taste and other attributes of these local varieties, there was an unwillingness to pay premium prices to compensate for lower yields and additional input costs. The net result of this has been the loss of a number of indigenous crop varieties.

Land stewardship and environmental conservation issues must be addressed. Intensive agricultural practices have had a negative impact on soil fertility. As a result, there is a total reliance on chemical fertilizers. Hillsides have been stripped of trees to supply fuel for cooking and erosion has removed soil from these slopes leaving them bare (see Figure 5). Poor sanitation practices and waste management procedures have contributed to contamination of surface water.



Fig. 5. Example of a hillside stripped of trees and other vegetation

Theft of agricultural crops from the fields has become common in some areas. With increased scrap metal prices, thefts of equipment and electrical wiring have increased. Even metal pump handles were being stolen, leaving people without the ability to get water in some areas.

As new opportunities for international trade have presented themselves and new practices such as organic growing have emerged, governmental agencies have not been able to have the necessary policies and regulations in place. Many agencies lack the capacity to deal with increasing demands for regulatory guidance. Excessive delays have brought development of organic certification to a standstill and have prevented exports of organic products to neighbouring markets.

Throughout all activities within the agri-food sector there is the important cross-cutting theme of gender equality. Since the majority of the work is done by women, it is the women who have the most to gain by any improvements in agricultural practices and increased revenue. Empowerment of women can be promoted through creation of financial independence derived from enhanced returns for their efforts.

#### 4. Conclusions

The agri-food sector in Sub-Saharan Africa is faced with a wide variety of challenges which are restricting development. Without an understanding of these circumstances, successful technology transfer

from developed nations can be seriously jeopardized. Even though this study was conducted in Malawi, experience in other Sub-Saharan countries has served to validate the relevance to other parts of the region. It is also recognized that the challenges identified here do not constitute an exhaustive list. There may be additional barriers to development unique to specific countries that have not been identified.

Many of the problems have been blamed on a lack of financial resources and insufficient government action. Attempts to assign blame do not address the complexity of the situation for which there is no rapid solution. Education and training hold the key for sustainable agricultural practices and ultimately for food security. This is a slow process, and it may take more than a generation before tangible results are felt. However, the urgency of the problem is such that while education and training are taking place, the more immediate problems discussed here must be addressed.

In the case of Malawi, the government has taken action and implemented measures that have had a positive impact on the agri-food sector. Fertilizer subsidy programs have been successful at improving crop yields, and the country has become self-sufficient in crops such as maize. Realistically, government funds are limited and not all problems can be solved through governmental or political intervention.

Meeting the United Nations Millennium Development Goals to reduce poverty and hunger, as well as promoting gender equality is an overwhelming task. Unfortunately, the difficulties are compounded by a myriad of barriers that must be overcome to meet these objectives and raise the standard of living in Sub-Saharan Africa.

## **Acknowledgements**

Support of the World University Service of Canada (WUSC), the Canadian International Development Agency (CIDA), and the University of Guelph, is gratefully acknowledged.

The author would like to extend special thanks to the World University of Canada staff in Lilongwe, Malawi and to “Uniterra” (Ottawa, Canada) for coordination of efforts in Malawi. The cooperation of the Farmers’ Union of Malawi and its member associations is greatly appreciated.

Presented at ICEF11 (May 22-26, 2011 – Athens, Greece) as paper INM085.